

## REMARKS

Claims 1-20 were pending in the application. Claims 1-20 were rejected. Claims 1, 3-6, 11, and 13-16 have been amended above. No new claims have been added. No claims have been canceled. Accordingly, Claims 1-20 remain pending in the application.

### I CLAIM REJECTIONS - 35 USC §112

Claims 1-20 were rejected under 35 U.S.C. 112, first paragraph because the specification, while being enabling for certain (poly)urethane-based thickeners as housed in Table 1, was not believed to reasonably provide enablement for compounds falling within the broad scope of the claimed "associative thickener". The Examiner further stated that "the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims." Applicant has amended both independent claims 1 and 11 to overcome this rejection by limiting the stated associative thickeners to those which are "urethane-based", thus eliminating the other two-thirds of the associative thickeners family, namely hydrophobically modified acrylics and hydrophobically modified cellulosics. Antecedent basis for this limitation may be found at page 6, lines 26-33, of the specification which specifies the "associative thickeners" used in the subject invention as those which are "based on urethane compounds". All other claims depend from claims 1 and 11, and therefore contain this limitation. Applicant submits that the invention as now claimed would clearly enable any person skilled in the subject art to make and/or use the invention.

While hydrophobically modified acrylics and hydrophobically modified cellulosics type associative thickeners were not specifically identified in the underlying specification, Applicant assumes they might work as well because they, like polyurethane associative thickeners, are an ambiphilic structure from a hydrophilic base polymer, which is linked with defined quantities of hydrophobic segments. Accordingly, their thickening effect is attributed to the fact that the relevant hydrophilic segments react weakly with the aqueous phase, whereas the hydrophobic side chains form relatively stable associates with the hydrophobic oil-based sulfonate compounds thereby forming the subject emulsion.

Claims 4, 14 and 18 were also rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement because no support could be found by the Examiner for the newly recited limitation "compounded with a sulfonate which [said] sulfonate may be either alkaline". Claims 4 and 14 have been amended above to overcome this rejection by clarifying the earth metal sulfonates used in the subject invention and by eliminating reference to characteristics of alkalinity or neutrality. Claim 18 depends from claim 14 and, therefore, has also been corrected.

## **II CLAIM REJECTIONS - 35 USC §102(e)**

Claims 2, 7-10, 12 and 17-20 were rejected under 35 U.S.C. 102(e) as anticipated by Guhde et al (U.S. 5,868,819). Applicant respectfully disagrees.

First and foremost, it is a principle object of the claimed invention to provide a method of preparing *emulsions* of various earth metal sulfonates. The teachings of Guhde et al do not disclose or even suggest such an objective. To the contrary, the compositions of Guhde et al are solutions having particulate metal solids suspended therein. There is no reference whatsoever to the formation of a "stable mixture of immiscible fluids" which is the definition of an emulsion. In Applicant's invention as claimed, it is the earth metal sulfonate composition, in the form of an oil-based liquid, that is dispersed within the water:thickener solution to form a stable oil-in-water:thickener emulsion. Although the claims specifically include the limitation of an emulsion, to further clarify this distinction over the prior art cited Applicant has amended claims 1, 4-6, 11 and 14-16 (and therefore the claims which depend therefrom) with the additional limitation that the alkaline earth metal sulfonates are "oil-based". Antecedent basis for this limitation may be found at page 6, lines 15-24, and page 8, lines 5-11.

Additionally, it is pointed out that the "high-boiling organic liquid" component of Guhde et al is believed to actually interfere with the formation of Applicant's claimed emulsions. The polar solvents employed by Guhde et al (i.e., tri- and tetraethylene glycol, di- and tripropylene glycol, the monomethyl, dimethyl, and ethyl ethers of these glycols, low molecular weight liquid polypropylene glycols, as well as diacetone alcohol, the low molecular weight ethers of diethylene glycol) impact the rheology of the compositions by

appreciably reducing the low shear thickening capability of the thickener. Accordingly, the presence of such organic liquids would likely interfere with the formation of a stable dispersion of Applicant's oil-based sulfonate in the water:thickener solution.

### **III CLAIM REJECTIONS - 35 USC §103(a)**

Claims 1-20 were rejected under 35 U.S.C. 103(a) as obvious over *Guhde et al.* Applicant respectfully submits that a prima facie case of obviousness has not properly been made out. For claims 1-20 to be unpatentable over *Guhde et al.*, this reference must be either in the field of the inventor's endeavor or reasonably pertinent to the specific problem with which applicant was involved.<sup>1</sup> As set forth below, neither of these conditions are believed to exist. Moreover, the *Guhde et al.* reference contains no suggestion or motivation for a person of ordinary skill to have modified the reference to form the subject invention as claimed. Each of these three arguments are presented below under separate heading.

#### **A. A § 103 Rejection Is Improper Because The *Guhde et al.* Reference Does Not Relate to The Same Field of Endeavor**

The Federal Circuit has stated the following when determining whether a reference is within the inventor's endeavor:

We have reminded ourselves and the PTO that it is necessary to consider "the reality of the circumstances" - in other words, common sense-in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.<sup>2</sup>

In the instant case, a person of ordinary skill in producing low VOC emulsions of earth metal sulfonates would not be disposed to look to the *Guhde* reference for a solution. The *Guhde* reference relates to compositions containing high-boiling organic liquids which fall under the definition of VOC's. It does not related in any way to

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<sup>1</sup>See *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986).

<sup>2</sup>*In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443, 1446 (Fed. Cir. 1992) (quoting *In re Wood*, 599, F.2d 1032, 1036, 202 USPQ 171, 174 (C.C.P.A. 1979).

the formation of emulsions of oil-based sulfonates without the presence of organic solvents. The mere fact that applicant's invention and the Guhde reference both relate to compositions for corrosion-resistance generally, is not sufficient evidence that the teachings of Guhde is in the same field of endeavor as applicant's invention.

In *Wang Laboratories, Inc. v. Toshiba Corp.*,<sup>3</sup> Wang sued Toshiba for patent infringement. Toshiba argued that Wang's patent was invalid in view of U.S. Patent 4,281,392, assigned to Allen-Bradley. The Federal Circuit held that substantial evidence supported the jury's decision that the Wang patent was not invalid in view of the Allen-Bradley patent because the Allen-Bradley patent was in a nonanalogous art. Specifically, the Federal Circuit first held that the Allen-Bradley patent was not within the field of the inventor's endeavor:

The Allen-Bradley art is not in the same *field of endeavor* as the claimed subject matter merely because it relates to memories. It involves memory circuits in which modules of varying sizes may be added or replaced; in contrast, the subject patents teach compact modular memories.<sup>4</sup>

Applicant respectfully suggests that because the Guhde reference and the subject invention, as claimed in claims 1-20, are nonanalogous art under Wang, a rejection based upon § 103 is improper.

**B. A § 103 Rejection is Improper Because the Guhde et al Reference is Not Reasonably Pertinent to the Problem With Which Applicant Was Involved**

Applicant also submits that the Guhde reference is nonanalogous art because it is not reasonably pertinent to the problem with which applicant was involved. In Wang, the Federal Circuit stated that even though the Allen-Bradley patent was not within the same field of endeavor as the Wang patent, it might still be considered analogous if the Allen-Bradley patent were reasonably pertinent to the problem the

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<sup>3</sup>Wang Labs., Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ 2d 1767 (Fed. Cir. 1993).

<sup>4</sup>*Id.*, 26 USPQ 2d at 1773 (emphasis added).

inventor attempted to solve. In this respect, the court held the following:

Wang's SIMMs were designed to provide compact computer memory with minimum size, low cost, easy repairability, and easy expandability....In contrast, the Allen-Bradley patent relates to a memory circuit for a larger, more costly industrial controller . . . Thus, there is substantial evidence in the record to support a finding that the Allen-Bradley prior art is not *reasonably pertinent* and is not analogous.<sup>5</sup>

It is clear from the above recited passage that although the inventions each related to memory for computers, the fact that they were designed with different problems in mind demanded a finding that the teachings of one were not reasonably pertinent to the patentability of the other. Similarly, although the inventions of the instant case each relate to anti-corrosion compositions, the Guhde reference relates to providing a coating composition that are chrome-free and water-reducible *solutions* whereas applicant's invention relates to producing amine-free *emulsions* of alkaline earth metal sulfonate compositions. The problems resolved by one have absolutely nothing to do with the problems resolved by the other. The Guhde reference is not reasonably pertinent to formation of amine-free emulsions and is, therefore, nonanalogous art, inappropriately considered for a § 103 rejection.

The Federal Circuit has clarified how to determine whether a reference is reasonably pertinent to the particular problem with which the inventor was involved. The Federal Circuit has stated that

[a] reference is reasonably pertinent if...it is one which, because of the matter with which it deals, logically would have commended itself to the inventor's attention in considering his problem...If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem...[I]f it is directed to a different purpose, the inventor would accordingly have had less motivation or occasion to consider it.<sup>6</sup>

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<sup>5</sup>*Id.*, (emphasis added).

<sup>6</sup>*In re Clay*, 966 F.2d 656, 23 USPQ 2d 1058, 1060-61 (Fed. Cir. 1992).

A thorough review of the Guhde reference reveals absolutely no mention whatsoever of finding an alternative to traditional methods of emulsifying overbased alkaline earth metal sulfonates, namely by addition of an amine/fatty acid at high temperature and the problems attendant with this method. Absent same, it is submitted that Guhde does not render obvious the present invention. Reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 103 is therefore earnestly solicited.

**C. A § 103 Rejection is Improper Because the Guhde et al Reference Does Not Suggest Modification of its Compositions to Form Emulsions**

Finally, a *prima facie* case of obviousness requires some reason, suggestion, or motivation from the prior art as a whole for the person of ordinary skill to have combined or modified the references. Accordingly, one prior art reference alone is generally not used to support an obviousness rejection because by definition, more than one source of information must support a rejection. As stated in the converse by the Federal Circuit, “[i]f it is necessary to reach beyond the boundaries of a single reference to provide missing disclosure of the claimed invention, the proper ground is not Section 102 anticipation, but Section 103 obviousness.”<sup>7</sup> In this case, it is respectfully submitted that a § 103 rejection based upon the Guhde reference alone is improper. By itself, Guhde fails to provide any suggestion or motivation to emulsify oil-based earth metal sulfonates or, for that matter, to form emulsions at all. There is no suggestion of seeking a low VOC, amine-free alternative to emulsification of earth metal sulfonates that is capable of producing a dry film that is highly resistant to re-emulsification after application to the substrate; and there is no suggestion of using an associative thickener as an alternative to the use of a volatile organic compound, namely morpholine, as an emulsifier. While Guhde does teach the addition of an associative thickener for increasing viscosity (which is the typical use of a thickener), it makes no mention of using such a product as an emulsifier. In assessing obviousness, all limitations of the claims are pertinent. *Ex parte*

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<sup>7</sup>Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1577, 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991).

*Murphy*, 215 U.S.P.Q. 479, 481 (P.O.B.A. 1982). These limitations serve as the nub of applicant's invention, and there is simply no mention, suggestion or motivation for modifying the *Guhde* reference in this manner. The prior art itself must provide the motivation for a proposed alteration of a reference. *Ex parte Chicago Rawhide Manufacturing Co.*, 220 U.S.P.Q. 351 (P.O.B.A. 1984). The suggestion must be plain and clear or the rejection is untenable. *Fromson v. Offset Plate, Inc.*, 225, U.S.P.Q. 26, 32 (Fed. Cir. 1985); *Kimberly-Clark Corp. v. Johnson & Johnson*, 223 U.S.P.Q. 603, 610 (Fed. Cir. 1984).

The Federal Circuit has also stated that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination."<sup>8</sup> The Patent Office applies the same standard. As explained by the Board:

When the incentive to combine the teachings of the references is not readily apparent, it is the duty of the Examiner to explain why combination of the reference teachings is proper....Absent such reasons or incentives, the teachings of the references are not combinable.<sup>9</sup>

Although the suggestion requirement appears to have recently gained substantial weight as an established element in the obviousness determination, this requirement is actually very old. In *Ex parte Re Qua*,<sup>10</sup> the claims, which involved the

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<sup>8</sup>See *In re Geiger*, 815 F.2d 686, 2 USPQ 2d 1276, 1278 (Fed. Cir. 1987). See also *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678-79, 7 USPQ 2d 1315, 1318 (Fed. Cir. 1988); *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 311 (Fed. Cir. 1983):

In concluding that obviousness was established by the teachings in various pairs of references, the district court lost sight of the principle that there must have been something present in those teachings to suggest to one skilled in the art that the claimed invention before the court would have been obvious. (citing *In re Bergel*, 292 F.2d 955, 956-57, 130 USPQ 206, 208 (C.C.P.A. 1961), *cert. denied*, 469 U.S. 851 (1984).

<sup>9</sup>*Ex parte Skinner*, 2 USPQ 2d 1788, 1790 (B.P.A.I. 1987).

<sup>10</sup>*Ex parte Re Qua*, 56 USPQ 179 (C.C.P.A. 1942).

construction of a filter, were rejected over the combination of two references. In reversing the rejection, the Board stated that “[t]here is no suggestion in either [prior art] patent as to how the features of the two devices could be combined so as to meet the structure claimed.”<sup>11</sup> Accordingly, this case indicates that an invention that is a combination of old elements will be nonobvious if the old elements typically deal with different problems. In the case at bar, there aren’t even two references to combine. Rather, we have only one reference with a problem (or purpose) clearly distinct from that faced by applicant.

The Federal Circuit has held that:

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. Wilson and Hendrix fail to suggest any motivation for, or desirability of, the changes espoused by the Examiner and endorsed by the Board.

Here the Examiner relied upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that “[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.”<sup>12</sup>

In the instant case, the Examiner states that “the disclosure of Guhde differs basically from the claim invention as per the order in which the mixing of the ingredients is performed per Guhde is slightly different from the ingredient admixing steps per the claimed invention.” This statement is erroneous in at least two respects. First, Guhde does not teach the formation of an emulsion at all. Second, Guhde does not employ oil-based earth metal sulfonates or any other anti-corrosive composition in liquid form. For claims 1-20 to be considered obvious, there must be something in the

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<sup>11</sup>Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

<sup>12</sup>*In re Fritch*, 972 F.2d 1260, 23 USPQ 2d 1780 (Fed. Cir. 1992) (quoting *In re Fine*, 837, F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988)).



references themselves which suggest the advantage to be derived from the proposed modification. *In re Semaker*, 217 U.S.P.Q. 1, 6 (Fed. Cir. 1983); *In Re Bergel*, 130 U.S.P.Q. 206, 208 (C.C.P.A. 1961). There is not.

In view of the above case law and observations, it is respectfully submitted that the present invention is not rendered obvious by *Guhde*. Reconsideration and withdrawal of the rejection of claims 1-20 under 35 U.S.C. § 103 is therefore earnestly solicited.

#### **IV COMMON OWNERSHIP**

The Examiner correctly presumes that the subject matter of the various claims was commonly owned at the time the inventions covered therein were made. Applicant acknowledges its obligations under 37 CFR 1.56.

#### **V FEES**

No additional fees for claims are due as a result of this amendment. The appropriate fees for a three (3) month extension of time to respond to the Office Action and for the Request for Continued Examination are enclosed herewith.

#### **VI CONCLUSION**

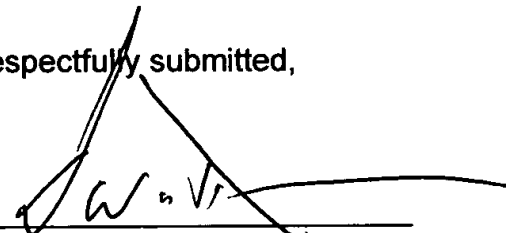
In view of the foregoing amendments and remarks, Applicant believes this case is in condition for allowance and, therefore, a prompt Notice of Allowance is earnestly solicited.

#### **VII CHANGE OF CORRESPONDENCE ADDRESS**

Kindly forward all future correspondence with respect to this application to the below identified address.

Date: February 13, 2004

Respectfully submitted,



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## LIST OF CLAIMS PER 37 C.F.R. 1.121

1. (Currently Amended) A method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound, said method comprising the steps of:
  - a) adding ~~an~~ a urethane-based associative thickener to water;
  - b) dispersing said urethane-based associative thickener in said water by mixing until a uniform solution of said water and said urethane-based associative thickener is formed;
  - c) adding a oil-based alkaline earth metal sulfonate to said solution of said water and said urethane-based associative thickener; and
  - d) mixing said oil-based alkaline earth metal sulfonate together with said solution of said water and said urethane-based associative thickener until a uniform emulsion is formed.
2. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 1.
3. (Previously Presented) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 1, wherein said at least one associative thickener is nonionic.
4. (Currently Amended) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 1, wherein said oil-based alkaline earth metal sulfonate is ~~comprised of an alkaline earth metal~~ selected from the group consisting of Calcium Sulfonate, Magnesium Sulfonate, Sodium Sulfonate and Barium Sulfonate ~~compounded with a sulfonate which said sulfonate may be either alkaline or neutral~~.
5. (Currently Amended) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 1, wherein said oil-based alkaline earth metal sulfonate is mixed with at least one additive selected from the group consisting of oils, waxes, microcrystalline waxes, petrolatums, tall oil fatty acids, calcium salts of oxidized petrolatums, nonionic surfactants, and mixtures of a linear alcohol and a hydrocarbon.
6. (Currently Amended) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 1, wherein said oil-based alkaline earth metal sulfonate is mixed with crystalline calcium carbonate.
7. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 3.
8. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 4.

9. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 5.

10. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 6.

11. (Currently Amended) A method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound, said method comprising the steps of:

- a) adding an associative thickener to water;
- b) dispersing said associative thickener in said water by mixing until a uniform solution of said water and said associative thickener is formed;
- c) mixing a oil-based alkaline earth metal sulfonate with at least one additive selected from the group consisting of oils, waxes, microcrystalline waxes, petrolatums, tall oil fatty acids, calcium salts of oxidized petrolatums, nonionic surfactants, and mixtures of a linear alcohol and a hydrocarbon;
- d) adding said mixture of said oil-based alkaline earth metal sulfonate and said at least one additive to said solution of said water and said associative thickener; and
- e) mixing said mixture of said oil-based alkaline earth metal sulfonate and said at least one additive with said solution of said water and said associative thickener until a uniform emulsion is formed.

12. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 11.

13. (Previously Presented) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 11, wherein said at least one associative thickener is nonionic.

14. (Currently Amended) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 11, wherein said oil-based alkaline earth metal sulfonate is ~~comprised of an alkaline earth metal~~ selected from the group consisting of Calcium Sulfonate, Magnesium Sulfonate, Sodium Sulfonate and Barium Sulfonate ~~compounded with a sulfonate which said sulfonate may be either alkaline or neutral.~~

15. (Currently Amended) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 11, wherein said oil-based alkaline earth metal sulfonate is mixed with at least one additive selected from the group consisting of oils, waxes, microcrystalline waxes, petrolatums, tall oil fatty acids, calcium salts of oxidized petrolatums, nonionic surfactants, and mixtures of a linear alcohol and a hydrocarbon.

16. (Currently Amended) The method of forming an amine-free emulsion of an alkaline earth metal sulfonate compound of claim 11, wherein said oil-based alkaline earth metal sulfonate is mixed with crystalline calcium carbonate.

17. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 13.

18. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 14.

19. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 15.

20. (Previously Presented) An amine-free emulsion of an alkaline earth metal sulfonate compound prepared in accordance with the method of claim 16.